

REMARKS

Reconsideration of this application is respectfully requested in view of the foregoing amendment and the following remarks.

By the foregoing amendment, claims 1-7 and 9-30 have been amended. Claim 8 was canceled in a previous response. Thus, claims 1-7 and 9-30 are currently pending in the application and subject to examination.

In the Office Action mailed July 12, 2005, claim 1 was rejected under 35 USC § 112, first paragraph. Claim 1 has been amended responsive to this rejection. If any additional amendment is necessary to overcome this rejection, the Examiner is requested to contact the Applicant's undersigned representative.

In the outstanding Office Action, claims 1-7 and 9-30 were rejected under 35 U.S.C. § 103(a), as being unpatentable over U.S. Patent No. 5,363,413 to Vos (hereinafter, "Vos"). It is noted that claims 1-7 and 9-30 have been amended. To the extent that the rejection remains applicable to the claims currently pending, the Applicant hereby traverses the rejection, as follows.

The Applicant submits that Vos does not disclose or suggest at least the combination of a method of decoding time division multiplexed data including a plurality of data streams convolutionally encoded with different coding rates and modulated using any one of BPSK, QPSK, and 8PSK, the method comprising: decoding, using a Viterbi decoding algorithm, a first data stream that is included in the time division multiplexed data and modulated using any one of 8PSK and QPSK; decoding, using a Viterbi decoding algorithm, a second data stream that is included in the time division multiplexed data and modulated using any one of QPSK and BPSK; and initializing after

completion of the decoding of the first data stream and before performing the decoding of the second data stream, a path metric that has been calculated before the completion of the decoding of the first data stream, except when both of the first data stream and the second data stream are modulated using QPSK, as recited in claim 1, as amended.

For at least this reason, the Applicant submits that claim 1, as amended, is allowable over the cited prior art. As claim 1, is allowable, the Applicants submit that claims 2, 18 and 19, which depend from allowable claim 1, are likewise allowable over the cited prior art.

Similarly to as discussed above with regard to claim 1, the Applicant submits that claim 12, as amended, is allowable over Vos at least because Vos does not disclose or suggest at least the combination of decoding, using Viterbi decoding algorithm, a first data stream that is included in the time division multiplexed data and modulated using any one of 8PSK and QPSK; decoding, using Viterbi decoding algorithm, a second data stream that is included in the time division multiplexed data and modulated using any one of QPSK and BPSK; and initializing after completion of the decoding of the first data stream and before performing the decoding of the second data stream, a path metric that has been calculated before the completion of the decoding of the first data stream, except when both of the first data stream and the second data stream are modulated using QPSK.

As claim 12 is allowable, the Applicant submits that claims 24 and 25, which depend from allowable claim 12, are likewise allowable over the cited prior art.

Claims 3, 9, 13 and 15 are each directed to a data receiving system or a decoder, both of which include at least a Viterbi decoder that decodes time division

multiplexed data including at least a plurality of data streams convolutionally encoded with different coding rates and modulated using any one of BPSK, QPSK, and 8PSK; and a Viterbi decoder that decodes time division multiplexed data including a plurality of data streams convolutionally encoded with different coding rates and modulated using any one of BPSK, QPSK, and 8PSK; and an initialization signal generation unit that outputs an initialization signal for a path metric to the Viterbi decoder after completion of decoding of a first data stream, which is included in the time division multiplexed data and modulated using any one of 8PSK and QPSK, and before performing decoding of a second data stream, which is included in the time division multiplexed data and modulated using any one of QPSK and BPSK, except when both of the first data stream and the second data stream are modulated using QPSK.

The Applicant submits that Vos neither discloses nor suggests each and every limitation recited in claims 3, 9, 13 and 15. For example, Vos neither discloses nor suggests at least the combination of a Viterbi decoder that decodes time division multiplexed data including at least a plurality of data streams convolutionally encoded with different coding rates and modulated using any one of BPSK, QPSK, and 8PSK and an initialization signal generation unit that outputs an initialization signal for a path metric to the Viterbi decoder after completion of decoding of a first data stream, which is included in the time division multiplexed data and modulated using any one of 8PSK and QPSK, and before performing decoding of a second data stream, which is included in the time division multiplexed data and modulated using any one of QPSK and BPSK, except when both of the first data stream and the second data stream are modulated using QPSK, as recited in claims 3, 9, 13 and 15, as amended.

For at least this reason, the Applicant submits that claims 3, 9, 13 and 15, as amended, are allowable over Vos. Claims 4-7, 20 and 21 depend from allowable claim 3, claims 22 and 23 depend from allowable claim 9, claims 14, 26 and 27 depend from allowable claim 13, and claims 16, 28 and 29 depend from allowable claim 15. As such, the Applicant submits that claims 4-7, 20 and 21, claims 22 and 23, claims 14, 26 and 27, and claims 16, 28 and 29 are allowable for at least the same reasons as claims 3, 9, 13 and 15, respectively, as well as for the additional subject matter recited therein.

As discussed above with regard to claims 3, 9, 13 and 15, the Applicant submits that claims 10 and 17, as amended, are allowable over Vos at least because Vos does not disclose or suggest at least the combination of a transmitting unit that transmits time division multiplexed data including a plurality of data streams convolutionally encoded with different coding rates and modulated using any one of BPSK, QPSK, and 8PSK; and a receiving unit that receives and decodes the time division multiplexed data. Where the receiving unit includes a Viterbi decoder that decodes the time division multiplexed data; a signal-to-noise ratio monitor that detects a strength of a noise included in the time division multiplexed data; and an initialization signal generating, or generation, unit that outputs an initialization signal for a path metric to the Viterbi decoder after completion of decoding of a first data stream and before performing decoding of a second data stream. The first data stream is included in the time division multiplexed data and modulated using any one of 8PSK and QPSK. The second data stream is included in the time division multiplexed data and modulated using any one of QPSK and BPSK, except when both of the first data stream and the second data stream are modulated using QPSK.

As claims 10 and 17 are allowable, the Applicant submits that claims 11 and 30, which depend from allowable claims 10 and 17, respectively, are likewise allowable over the cited prior art.

Conclusion


For all of the above reasons, it is respectfully submitted that the claims now pending patentability distinguish the present invention from the cited reference. Accordingly, reconsideration and withdrawal of the outstanding rejection and an issuance of a Notice of Allowance are earnestly solicited.

If the Examiner believes that additional discussions or information might advance the prosecution of the instant application, the Examiner is invited to contact the undersigned at the telephone number listed below to expedite resolution of any outstanding issues.

In the event this paper is not considered to be timely filed, Applicant respectfully petitions for an appropriate extension of time. Please charge any fee deficiently or credit any over payment to Deposit Account No. 01-2300, making reference to Attorney Docket No. 08391-00010.

Respectfully submitted,

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Enclosures: Petition for One Month Extension